

HauntMaven.com - Wolfstone's Haunted Halloween Site



http://wolfstone.halloweenhost.com/TechBase/elekit_ElectronicKits.html

Electronic Kits

Elsewhere on our web site, we discuss availability of strobes and lights and color organs, both of which are easily available as kits.



Why Bother With A Kit?

Many people think of kit building as a way to save money. It seldom really works out that way, because you are pouring a substantial amount of labor into the project. Sometimes you can just buy the gadget off the shelf for less than the true cost of a kit.

But kit-building is often satisfying.

- The design has been worked out and set up to be easily built.
- There should be good documentation.
- Somebody already collected all the essential parts and saved you from shopping around.
- Really good kits include educational material, explaining how the gadget works and what each part does.
- And when you're done, you can say "I built it myself!"

Who Sells Kits?

Electronic kits are available from most electronic retailers that cater to hobbyists. Some examples:

- [All Electronics](#)
- [Herbach & Rademan](#)
- [Electronic Goldmine](#)
- [Circuit Specialists](#)
- [Gibson Tech Ed.](#)
- [Quality Kits](#)
- [Jameco Electronics](#)
- [Radio Shack](#)

Who Manufactures Kits?

It is very common to find the same kit sold by various kit sellers. What makes it difficult to figure out is that the various vendors often use different part numbers for the same kit. Sometimes, they don't even tell you who makes the kit.

I have tracked down the following kit manufacturers. Some of them may sell direct to consumers; others only sell through distributors.

- [Graymark](#)
- [Chaney Electronics](#)
- [DIY Electronics](#)
- [Velleman](#)
- [Smart Kit Electronics](#)
- [Ramsey Electronics](#)
- [Cana Kit](#)
- [Elenco Electronics](#)
- [DATAKITS](#)

Know What Is Included

Before buying a kit, make sure that you study the advertisement or catalog carefully. Make sure that you know exactly what you will be getting.

Graymark kits are available with or without a printed circuit board. One web site quotes

| | | |
|------------|--|---------|
| Model 152 | Sound Activated Color Organ 3-Ch | \$16.95 |
| Model 152P | Sound Activated Color Organ 3-Ch w/PCB | \$22.95 |

I guess it's nice to have the option of not using a printed circuit board, but using a PCB sure makes assembly faster, easier, and minimizes mistakes. I would consider it mandatory, and compare kits on that basis.

Also, see whether or not the following items are included:

- AC line cord, for line-operated projects.
- Fuse holder and fuse, for line-operated projects.
- Battery holder, for battery-operated projects.
- A case to put it in.
- Knobs to go on any adjustment potentiometers that stick out of the box.
- An on/off switch is a good idea.
- A transparent cover over the xenon lamp, for strobe lights.
- It is expected that a kit will contain clear instructions for assembly. Good kits will include theory of operation and educational materials, too.

Please be aware that most kits won't contain all of this. It doesn't make a kit bad simply because it comes without a box. But it does mean there's a hidden expense in completing the project. You should take these things into account when shopping for kits.

Tips for kit builders

General Tips

- Companies that design kits want to be able to sell their products for a long time without re-engineering them. Kits are often designed to accept several different components. For example, a board may be laid out to accept either a long skinny capacitor, or a short thick one. You'll only get one of those capacitors in the kit, depending on what components are available at the time that your kit was packaged.
- Any project that is powered by the AC line deals with hazardous voltages. It is extremely important to exercise appropriate cautions around this type of equipment to avoid electric shock.
- Any project that is powered by the AC line should have a fuse in the circuit. Sometimes you need more than one.
- Most kits don't come with a case or box to build it into. In some cases, safety concerns demand an enclosure. But even when not absolutely necessary, a nice case is an excellent finishing touch. It gives your project a professional look. We have more information on boxes and knobs.

- Never assemble an electronic kit using plumbing solder. It is thick and clumsy, and probably contains acid flux that will ruin your project and void the warranty.

Color Organ Tips

- Color organs that are powered by the AC line must be built in an appropriate case, preferably plastic, to prevent the user from touching the dangerous voltages.
- In order to protect your stereo from line voltage, well-designed kits isolate their input from your stereo using optical isolation, transformer, or a microphone.
- Color organs that drive line-operated lights should have an individual fuse for each channel.

Consider a 3-channel color organ that drives 5A per channel. If there is a single fuse, it will have to be rated 15A, so each of the three channels can get 5A. But what if two of the channels aren't doing anything and the third channel is drawing 10A. Something is dreadfully wrong, but the fuse won't blow.

Strobe Tips

- Xenon strobe circuits are based on high voltages. They can't work without them. High voltage is dangerous, especially when stored in capacitors for rapid release. This is true of even battery-operated units. It is extremely important to exercise appropriate cautions around this type of equipment to avoid electric shock. You don't have to be a rocket scientist, like my wife, but you do need to be careful!
- All strobe units must have their electronics fully enclosed in an insulating case. The xenon strobe lamp must have a cover, in case it shatters during operation. When you purchase a ready-to-use strobe, it should come with these features. Don't open the case - it's dangerous in there!
- If you build a strobe kit, you must make it fully enclosed in an insulating case - even if the kit didn't come with a case! The xenon strobe lamp must have a cover, in case it shatters during operation.
- If you have to work on a strobe that has been used, make sure that the capacitors are discharged before you go poking around in there.
- Put a bleeder resistor across the energy storage capacitor, even if the design does not call for one.